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(54) Method of and apparatus for producing a strip of lead frames for integrated circuit dies in a continuous system.

(57) Lead frames for microchips and other integrated circuit dies are produced by a continuous manufacturing method and apparatus in which silver spot plating is done prior to etching away unwanted portions of the lead frame substrate. A flexible substrate of a metal alloy is fed continuously from a reel, then spot plated with silver, coated with a photosensitive material, and exposed to intensive light in an exposure chamber using a photoresist or masking tool of predetermined design. The exposed photosensitive material is developed chemically, etched in acid, and placed in a chemical solution to remove any remaining unwanted material. The strip is then dried, cut to predetermined lengths and boxed for shipment. If necessary, the strip is downset and taped before packaging. In a presently preferred process, the metal alloy substrate is 42 alloy (Fe + Ni), and the selective spot plating is silver 100 to 150 microinches (2.5 to 3.8 microns) thick. The silver does not dissolve in the etchants and therefore has to be removed from exposed areas, preferably by "reverse" plating techniques.

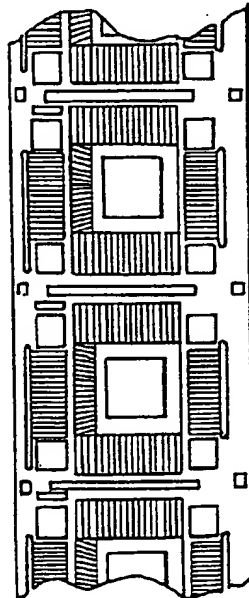


FIG. 2

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